FUGRO WEST, INC.



1000 Broadway, Suite 200 Oakland, California 94607 **Tel: (510) 268-0461** Fax: (510) 268-0137

June 12, 2006 Project No. 1740.001

City of Fort Bragg 416 North Franklin Street Fort Bragg, California 95437

Attention: Ms. Linda Ruffing

Subject: Dioxin Findings at Former GP Mill Site

Dear Ms. Ruffing:

On June 6, 2006, the Georgia-Pacific Investigation Team provided Fugro West, Inc., and SLR International Corp with an update of recent investigation findings. Summary information included results of dioxin analyses conducted on a total of 37 samples. In consideration of an upcoming 4th of July fireworks event, this memorandum focuses on the dioxin findings.

Analyses detected dioxin concentrations in three types of media at the site, including:

- Ash stockpiles approximately 3,000 cubic yards of ash located in the eastern portion of Area 7;
- Soil primarily subsurface soil located at depths of 2 to 9.5 feet with visible indications of ash in Areas 8 and 10; and
- Sediment from various ponds locations at depths ranging from 0 to 14 feet below the pond.

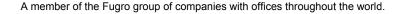
We understand that formal data validation of these data has not yet been completed. We were also informed that based on these findings, additional dioxin testing will be conducted but the scope of that work has not been discussed. A summary of the analytical results and a map illustrating the sample locations is attached.

For the three ash stockpiles, analyses detected 767 to 991 pg/g¹ of dioxin in samples collected at the surface of the stockpiles. The preliminary remedial goal (PRG) established by the USEPA for dioxin in a residential setting is 3.9 pg/g as a total 2,3,7,8-TCDD equivalent concentration (TEQ). These ash stockpiles are currently covered with grassy vegetation and are not directly accessible to the general public.

For the six soil samples, analyses detected 16.6 pg/g of dioxin in one sample collected from a depth of 1-foot at the Dry Shed No. 4 in Area 3. Dioxin concentrations in the other 5 soil samples were less than 3.9 pg/g TEQ.

¹ pg/g = picograms per gram; roughly equivalent to parts per trillion







For the sediment samples, analyses detected dioxin concentrations exceeding 3.9 pg/g in 15 of the 28 tested samples. Sediment samples were collected at depths ranging from 0 to 14 feet below the pond (i.e., below the contact of the water and mud). The highest dioxin TEQ concentration in sediment was 1,730 pg/g, detected in DP-4.12 from Pond 7. It was speculated that the presence of dioxin at Pond 7 might be associated with the ash handling operations at the former powerhouse.

We understand that a fireworks event, comprising potentially up to 3 days of activities, is currently planned to occur in portions of Areas 8 and 10 for the 4th of July. Accordingly, we completed preliminary calculations to assess potential exposure scenarios at the site. Assuming 3 days of exposure to the highest dioxin concentrations in the ash stockpiles, standard human health risk calculations resulted in a calculated risk estimate of approximately $2x10^{-8}$; two orders of magnitude less than the residential target risk level of $1x10^{-6}$. Assuming 3 days of exposure to the highest dioxin concentration in soil from Areas 8 and 10, the calculated human health risk was estimated to be $4x10^{-10}$; or close to four orders of magnitude less than the $1x10^{-6}$ criteria. In both cases, the calculated risks are considered to be low and within acceptable limits established by the USEPA. For the purposes of this letter, we assume that the sediments in ponds are not accessible and therefore associate risks for the pond sediments are not discussed.

Sincerely,

FUGRO WEST, INC.

Glenn S. Young, PG Principal Geologist **SLR Corporation**

Mark Stelljes, PhD

Director of Toxicology and Risk Assessment

GSY/MS:ei

Attachments: Summary Table and Draft Site Map

Copies Submitted: (1) Recipient, via email





Summary of Dioxin Data Former GP Mill Site Fort Bragg, California

Location	Depth (ft)	Conc (pg/g)	Comments
Ash Stockpile samples			
AS-7.1	0	991	max
AS-7.2	0	767	
AS-7.3	0	768	
Soil samples			6 soil samples; 1 exceeds 3.9 pg/g
DP-3.59	1		max
HAS-4.5	0		
DP-8.7	2		
DP-8.9	2.5		
DP-10.7	5		
DP-10.9	9.5	0.00013	
Pond Sediment Samples			28 soil samples; 15 exceed 3.9 pg/g
DP-1.5	2		
DP-4.7	14		
DP-4.9	0.5		
DP-4.9	6		
DP-4.10	0		
DP-4.11	6		
DP-4.12	6		max
DP-4.13	0		
DP-4.14	2		
DP-4.15	2		
DP-5.60	3		
DP-5.60	8		
DP-5.61	0		
DP-5.61	10		
DP-5.62	0		
DP-5.62	5		
DP-5.62	10		
DP-5.63	0		
DP-7.9	0		
DP-7.10	0		
DP-7.11	2		
DP-7.12	2		
DP-7.13	0		
DP-7.14	6		
DP-7.15	0		
DP-7.16	6		
DP-7.17	0		
DP-7.18	0		
	_		







